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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/177,814
	Filing Date	October 23, 1998
	First Named Inventor	Terry L. Gilton
	Art Unit	1641
	Examiner Name	N. Yang
Total Number of Pages in This Submission	Attorney Docket Number	2269-3530.3US (97-1257.00/US)

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Terry L. Gilton

Serial No.: 09/177,814

Filed: October 23, 1998

For: SEPARATION APPARATUS
INCLUDING POROUS SILICON COLUMN

Confirmation No.: 3621

Examiner: N. Yang

Group Art Unit: 1641

Attorney Docket No.: 2269-3530.3US

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REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief follows the Examiner's Answer of July 17, 2006, and is being filed pursuant to 37 C.F.R. § 41.41. As September 17, 2006, fell on a Sunday, the period for filing this Reply Brief expires on Monday, September 18, 2006. 37 C.F.R. § 1.7.

VII. ARGUMENT

A. REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

Withdrawal of the 35 U.S.C. § 112, first paragraph, rejection of claim 1 is gratefully acknowledged.

B. REJECTIONS UNDER 35 U.S.C. § 102

3. ANALYSIS

It has been asserted in the Examiner's Answer that

Northrup et al in fact teach that the porous silicon members define an interface between two analysis devices (detectors) (claim 10). Therefore, the porous silicon members would be in communication with the analysis devices, which are considered to be the detectors. Examiner's Answer, page 11.

As the analysis devices of Northrup that "would be in communication with" the porous silicon members are separate from the substrate within which the porous silicon members are formed, this assertion overlooks the fact that independent claim 1 requires that "at least one detector [be] fabricated on the substrate" in which "matrices comprising at least two distinct, unconnected porous regions" are formed.

It is, therefore, respectfully submitted that Northrup does not expressly or inherently describe, or anticipate, each and every element of the sample separation apparatus to which independent claim 1 is directed. As such, under 35 U.S.C. § 102(b), independent claim 1 is allowable over the disclosure of Northrup.

Each of claims 3, 4, 7, 11, 18, 22-24, 111, and 112 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

It is also noted that the Examiner has not addressed the additional explanation that has been set forth in the Appeal Brief as to why dependent claim 7 is allowable.

It is respectfully requested that the 35 U.S.C. § 102(e) rejections of claims 1, 3, 4, 7, 11, 18, 22-24, 111, and 112 be reversed, and that each of these claims be allowed.

C. REJECTIONS UNDER 35 U.S.C. § 103(a)

3. ANALYSIS

a. KNOLL IN VIEW OF NORTHRUP

It is respectfully submitted that a *prima facie* case of obviousness has not been established against independent claim 1 since neither Knoll nor Northrup teaches or suggests an apparatus that includes a substrate on which a detector is fabricated and across which a porous capillary column, which communicates with the detector, extends. Instead, the detectors of the device disclosed in Knoll communicate with discrete porous “containments.” As the containments are discrete, they do not extend across any portion of the substrate—particularly when the relative sizes of the substrate and the containments are considered. Moreover, while the containments communicate with branches from capillary columns, the capillary columns themselves are not porous.

Further, in view of the fact that the device of Knoll includes porous containments but not porous capillary columns, it does not appear that one of ordinary skill in the art would have had any reason to combine the teachings of these references in the asserted manner. Nor has the Examiner set forth a convincing line of reasoning as to why one of ordinary skill in the art would have been so motivated.

Accordingly, it is respectfully submitted that, under 35 U.S.C. § 103(a), the subject matter to which independent claim 1 is directed is allowable over the teachings of Knoll and Northrup.

Claims 5, 7, 8, 10, 11, 14, 15, 25-29, 111, and 112 are each allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

b. HELLER, VICKERS, AND NORTHRUP

Like Knoll, the teachings of Heller are limited to devices with porous “micro-locations” that are in communication with optoelectronic or microelectronic detection components. As their name implies, “micro-locations” do not extend across a substrate, particularly when their size is considered relative to the size of the substrate in which they are formed. Unlike Knoll, the micro-locations of Heller do not communicate with capillary columns that extend across a substrate.

In view of these limitations on the subject matter taught or suggested by Heller, especially when considered along with the limited teachings of Northrup and Vickers, a *prima facie* case of obviousness has not been established against independent claim 1, as would be required to uphold the 35 U.S.C. § 103(a) rejection of independent claim 1.

Each of claims 3, 5, 6-11, 14, 15, 18, 22-24, 111, and 112 is allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

c. BURNS IN VIEW OF NORTHRUP

Burns teaches the desirability of apparatus that include two pieces that have been bonded together: a first piece with channels and other features for handling fluids; and a second piece

upon which electronic components, including sensors, are fabricated. Col. 21, line 24, to col. 22, line 13 (in particular, col. 21, lines 42-44). Thus, Burns does not teach or suggest that the channels of the disclosed device and the sensors thereof are formed in an fabricated on the same substrate, as required by independent claim 1.

Northrup similarly lacks any teaching or suggestion of a substrate in which porous regions are formed and on which at least one detector is fabricated.

Therefore, these references cannot together teach or suggest a substrate in which porous regions are formed and on which at least one detector is fabricated, as recited in independent claim 1. It is, therefore, respectfully submitted that the teachings of Burns and Northrup do not support a *prima facie* case of obviousness against independent claim 1. As such, the subject matter recited in independent claim 1 is allowable over the subject matter taught in Burns and Northrup.

Claims 3-5, 7-9, 13, 16-20, 22-27, 111, and 112 are each allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

d. BURNS, NORTHRUP, AND DUBROW

Claim 21 is allowable, among other reasons, for depending indirectly from claim 1, which is allowable.

XI. CONCLUSION

It is respectfully submitted that:

(A) Claims 1, 3, 4, 7, 11, 18, 22-24, 111, and 112 are allowable under 35 U.S.C. § 102(e) for being drawn to subject matter that is not anticipated by the subject matter described in Northrup;

(B) Under 35 U.S.C. § 103(a), the subject matter to which claims 1, 5, 7, 8, 10, 11, 14, 15, 25-29, 111, and 112 are directed is allowable over the teachings of Knoll, in view of teachings from Northrup;

(C) Claims 1, 3, 5, 6-11, 14, 15, 18, 22-24, 111, and 112 recite subject matter that, under 35 U.S.C. § 102(b) (apparently 35 U.S.C. § 103(a)), is allowable over the subject matter described in Heller, in view of the disclosure of Vickers and, further, in view of the subject matter described in Northrup;


(D) Under 35 U.S.C. § 102(e) (apparently 35 U.S.C. § 103(a)), claims 1, 3-5, 7-9, 13, 16-20, 22-27, 111, and 112 are drawn to subject matter that is allowable over the disclosure of Burns, in view the subject matter disclosed in Northrup; and

(E) Claim 21 recites subject matter that, under 35 U.S.C. § 103(a), is allowable over teachings from Burns, in view of teachings from Northrup and, further, in view of the teachings of Dubrow.

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Accordingly, reversal of the final rejections of claims 1, 3-11, 13-29, 111, and 112 is respectfully requested, as is the allowance of each these claims.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brick G. Power". The signature is fluid and cursive, with the first name "Brick" being more prominent.

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Date: September 18, 2006
BGP/eg
Document in ProLaw